MICHIGAN STATE MEDICAL SOCIETY

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MEMO TO: Honorable Gail Haines, Chairwoman
House Health Policy Committee

FROM: Matthew D. Sims MD, PhD, FACP, FIDSA

RE: CRE Infections

Good morning Chairwoman Haines, Vice-Chairman Darany, and members of the Committee. My name is Matthew D. Sims, M.D. PhD. I am the Director of Infectious Diseases Research at William Beaumont Hospital in Royal Oak. I am here on behalf of the Michigan State Medical Society, a professional organization representing more than 15,000 physicians from across the state.

Thank you for the opportunity to speak with you today regarding an incredibly important issue pertaining to CRE infection and what physicians are doing in our state to prevent this type of infection from occurring.

CRE stands for Carbapenem-Resistant Enterobacteriaceae, which is a family of germs that can be difficult to treat because of their high levels of resistance to antibiotics. While CRE were first noted as a problem in 2001, ongoing surveillance by the Center for Diseases Control and Prevention has noted that rates of these highly resistant organisms have quadrupled over the past decade and in one particular bacterial species (*Klebsiela pneumoniae*) are as high as 10%. While hospitals have seen an increase, the largest area of concern is in long term care facilities.

This infection is most common among patients who are receiving treatment for other conditions. Patients whose care requires devices such as ventilators (breathing machines), urinary (bladder) catheters, or intravenous (vein) catheters, and patients who are taking a long course of certain antibiotics are most at risk for CRE infections. However, while the infections are typically found in hospitalized populations, the Enterobacteriaceae are a common cause of community acquired infections such as urinary tract infections. This means that the highly resistant forms may have more potential to spread from the health care environment and into the community.

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The resistance is rising due to overuse and improper use of antibiotics. When antibiotics are used in the wrong setting, for too long or too short of a time, the effect is to educate bacteria on how to avoid those antibiotics, CRE is an outgrowth of this. What makes this problem so concerning is that these infections do not initially present any differently from their sensitive counterparts and only with appropriate testing can the resistance be detected. Since this bacteria is often resistant to most, if not all, currently available antibiotics, the mortality for serious infections can be as high as 40%.

The Centers for Disease Control and Prevention is working in collaboration with health care facilities and physicians to better understand not only the true number of infections caused by these organisms, but how to protect patients from being infected. The key to properly handling this difficult situation is for the infectious disease community to work closely with infection control practitioners and clinical microbiologists.

The goal is to rapidly identify these infections, prevent their spread, and appropriately treat them. Prevention by enforcement of hand hygiene, isolation procedures, and appropriate antibiotic use enforced by education and antibiotic stewardship programs are all part of the strategy to control this deadly problem. We must also look ahead to new strategies and treatments. At several sites in Michigan, both clinical and translational research programs are seeking better methods to treat these infections.

Thank you for the opportunity to speak and educate the committee on CRE infections. I would be happy to answer any questions.